

BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL


```
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      TTTTTTTTTT      RRRRRRRR      LL      000000
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      TTTTTTTTTT      RRRRRRRR      LL      000000
BB      BB      AA      AA      SS      CC      TT      RR      RR      LL      00      00
BB      BB      AA      AA      SS      CC      TT      RR      RR      LL      00      00
BB      BB      AA      AA      SS      CC      TT      RR      RR      LL      00      00
BBBBBBBBB      AA      AA      SSSSSS      CC      TT      RRRRRRRR      LL      00      00
BB      BB      AA      AA      SSSSSS      CC      TT      RRRRRRRR      LL      00      00
BB      BB      AAAAAAAAAA      SS      CC      TT      RR      RR      LL      00      00
BB      BB      AAAAAAAAAA      SS      CC      TT      RR      RR      LL      00      00
BB      BB      AA      AA      SS      CC      TT      RR      RR      LL      00      00
BB      BB      AA      AA      SSSSSSSS      CC      TT      RR      RR      LL      00      00
BBBBBBBBB      AA      AA      SSSSSSSS      CCCCCCCC      TT      RR      RR      LLLLLLLLLL      000000
BBBBBBBBB      AA      AA      SSSSSSSS      CCCCCCCC      TT      RR      RR      LLLLLLLLLL      000000
```

```
LL      IIIIII      SSSSSSSS
LL      IIIIII      SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```



```

1 0001 0 MODULE BAS$CTRL0 (
2 0002 0 IDENT = '1-004'
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
9 0009 1 * DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
10 0010 1 * ALL RIGHTS RESERVED.
11 0011 1 *
12 0012 1 * THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
13 0013 1 * ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
14 0014 1 * INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
15 0015 1 * COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
16 0016 1 * OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
17 0017 1 * TRANSFERRED.
18 0018 1 *
19 0019 1 * THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
20 0020 1 * AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
21 0021 1 * CORPORATION.
22 0022 1 *
23 0023 1 * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
24 0024 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
25 0025 1 *
26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1
30 0030 1 ++
31 0031 1 FACILITY: VAX-11 BASIC Miscellaneous I/O
32 0032 1
33 0033 1 ABSTRACT:
34 0034 1
35 0035 1 This module contains the BASIC CTRL0 and RCTRL0 functions,
36 0036 1 Which suppress and unsuppress output on a specified channel.
37 0037 1
38 0038 1 ENVIRONMENT: VAX-11 User Mode
39 0039 1
40 0040 1 AUTHOR: John Sauter, CREATION DATE: 19-APR-1979
41 0041 1
42 0042 1 MODIFIED BY:
43 0043 1
44 0044 1 1-001 - Original.
45 0045 1 1-002 - Set up ISB$A_USER FP. JBS 25-JUL-1979
46 0046 1 1-003 - Correct test of LOB$V_OPENED. JBS 26-FEB-1980
47 0047 1 1-004 - Set CCO bit on the output side of channel 0. JBS 31-MAR-1980
48 0048 1 --
49 0049 1
50 0050 1 !<BLF/PAGE>

```

! Turn control 0 on or off
! File: BAS\$CTRL0.B32 Edit: JBS1004

```
52 0051 1 |
53 0052 1 | SWITCHES:
54 0053 1 |
55 0054 1 |
56 0055 1 | SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
57 0056 1 |
58 0057 1 |
59 0058 1 | LINKAGES:
60 0059 1 |
61 0060 1 |
62 0061 1 | REQUIRE 'RTLIN:OTSLNK'; | Define Linkages
63 0490 1 |
64 0491 1 |
65 0492 1 | TABLE OF CONTENTS:
66 0493 1 |
67 0494 1 |
68 0495 1 | FORWARD ROUTINE
69 0496 1 |     BAS$CTRL0, | Suppress output
70 0497 1 |     BAS$RCTRL0; | Cease suppressing output
71 0498 1 |
72 0499 1 |
73 0500 1 | INCLUDE FILES:
74 0501 1 |
75 0502 1 |
76 0503 1 | REQUIRE 'RTLML:OTSLUB'; | Get LUB definitions
77 0643 1 |
78 0644 1 | REQUIRE 'RTLML:OTSISB'; | Get ISB definitions
79 0812 1 |
80 0813 1 | REQUIRE 'RTLIN:RTLPSECT'; | Macros for defining psects
81 0908 1 |
82 0909 1 | LIBRARY 'RTLSTARLE'; | System symbols
83 0910 1 |
84 0911 1 |
85 0912 1 | MACROS:
86 0913 1 |
87 0914 1 |     NONE
88 0915 1 |
89 0916 1 | EQUATED SYMBOLS:
90 0917 1 |
91 0918 1 |     NONE
92 0919 1 |
93 0920 1 | PSECTS:
94 0921 1 |
95 0922 1 | DECLARE_PSECTS (BAS); | Declare psects for BAS$ facility
96 0923 1 |
97 0924 1 | OWN STORAGE:
98 0925 1 |
99 0926 1 |     NONE
100 0927 1 |
101 0928 1 | EXTERNAL REFERENCES:
102 0929 1 |
103 0930 1 |
104 0931 1 | EXTERNAL ROUTINE
105 0932 1 |     BAS$$OPEN_ZERO : NOVALUE, | Open channel zero
106 0933 1 |     BAS$$CB_PUSH : JSB CB PUSH NOVALUE, | Load register CCB
107 0934 1 |     BAS$$CB_POP : JSB CB POP NOVALUE, | Done with register CCB
108 0935 1 |     BAS$$STOP_IO : NOVALUE; | Signal fatal I/O error
```



```
: 109      0936 1
: 110      0937 1 !+
: 111      0938 1 !- The following are the error codes used in this module.
: 112      0939 1 !-
: 113      0940 1
: 114      0941 1 EXTERNAL LITERAL
: 115      0942 1     BAS$K_IO_CHANOT : UNSIGNED (8);
: 116      0943 1     ! Channel not open.
```

```
118 0944 1 GLOBAL ROUTINE BAS$CTRLO (
119 0945 1     CHAN
120 0946 1 ) =
121 0947 1
122 0948 1 ++
123 0949 1 FUNCTIONAL DESCRIPTION:
124 0950 1
125 0951 1     Simulates typing a control 0 on the terminal open on the
126 0952 1     specified channel.
127 0953 1
128 0954 1 FORMAL PARAMETERS:
129 0955 1
130 0956 1     CHAN.rl.v     The channel whose terminal to simulate a
131 0957 1                   control 0 on
132 0958 1
133 0959 1 IMPLICIT INPUTS:
134 0960 1
135 0961 1     NONE
136 0962 1
137 0963 1 IMPLICIT OUTPUTS:
138 0964 1
139 0965 1     LUB$V_CCO     Cancel control 0.
140 0966 1
141 0967 1 ROUTINE VALUE:
142 0968 1 COMPLETION CODES:
143 0969 1
144 0970 1     SSS_NORMAL
145 0971 1
146 0972 1 SIDE EFFECTS:
147 0973 1
148 0974 1     Signals if an error is encountered.
149 0975 1     BAS$$CB_PUSH will signal if the channel number is invalid.
150 0976 1     This function is a no-operation if the channel is not open.
151 0977 1
152 0978 1 --
153 0979 1
154 0980 2 BEGIN
155 0981 2
156 0982 2 BUILTIN
157 0983 2     FP;
158 0984 2
159 0985 2 GLOBAL REGISTER
160 0986 2     CCB = K_CCB_REG : REF BLOCK [, BYTE];
161 0987 2
162 0988 2 LOCAL
163 0989 2     FMP : REF BLOCK [, BYTE];
164 0990 2
165 0991 2     FMP = .FP;
166 0992 2 ++
167 0993 2 Get the CCB for the channel.
168 0994 2 --
169 0995 2
170 0996 2 IF (.CHAN EQL 0)
171 0997 2 THEN
172 0998 2 BEGIN
173 0999 2 ++
174 1000 3 ! The user is referencing his controlling terminal.
```



```
175 1001 3 !-
176 1002 BAS$$CB_PUSH (LUB$K_LUN BPRI, LUB$K_ILUN MIN);
177 1003 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
178 1004 !+
179 1005 !- If the controlling terminal is not yet open, open it.
180 1006 !-
181 1007
182 1008 IF ( NOT .CCB [LUB$V_OPENED]) THEN BAS$$OPEN_ZERO (.FMP [SF$L_SAVE_FP]);
183 1009
184 1010 END
185 1011 ELSE
186 1012 BEGIN
187 1013 !+
188 1014 !- This is an ordinary channel.
189 1015 !-
190 1016 BAS$$CB_PUSH (.CHAN, LUB$K_LUN MIN);
191 1017 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
192 1018 END;
193 1019
194 1020 !+
195 1021 !- If the channel is not now open, this function is a no-operation.
196 1022 !-
197 1023
198 1024 IF (.CCB [LUB$V_OPENED])
199 1025 THEN
200 1026 BEGIN
201 1027 !+
202 1028 !- Now clear the CCO bit, so control 0's will not be canceled.
203 1029 !-
204 1030 CCB [LUB$V_CCO] = 0;
205 1031 END;
206 1032
207 1033 !+
208 1034 !- We are done with register CCB.
209 1035 !-
210 1036 BAS$$CB_POP ();
211 1037 RETURN TSS$_NORMAL);
212 1038 1 END;
```

! end of BAS\$CTRL0

```
.TITLE BAS$CTRL0
.IDENT \1-004\
```

```
.EXTRN BAS$$OPEN_ZERO, BAS$$CB_PUSH
.EXTRN BAS$$CB_POP, BAS$$STOP_IO
.EXTRN BAS$K_ID_CHANOT
```

```
.PSECT _BAS$CODE, NOWRT, SHR, PIC, 2
```

```
.ENTRY BAS$CTRL0, Save R2, R3, R4, R11
MOVAB BAS$$CB_PUSH, R4
MOVL FP, FMP
TSTL CHAN
BNEQ 1$
MNEGL #8, R0
MNEGL #8, R2
JSB BAS$$CB_PUSH
```

```
54 00000000G 00 081C 00000
53 04 5D D0 00009
AC D5 0000C
1E 12 0000F
50 08 CE 00011
52 08 CE 00014
64 16 00017
```

```
: 0944
: 0991
: 0996
: 1002
:
```

BAS\$CTRLO
1-004

I 12
16-Sep-1984 00:10:22
14-Sep-1984 11:54:48

VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCTRLO.B32;1

Page 6
(3)

FF4C	CB	OC	A3	D0	00019	MOVL	12(FMP), -180(CCB)	:	1003
	1E	FC	AB	E8	0001F	BLBS	-4(CCB), 3\$:	1008
		OC	A3	DD	00023	PUSHL	12(FMP)	:	
00000000G	00		01	FB	00026	CALLS	#1, BAS\$\$OPEN_ZERO	:	
			0E	11	0002D	BRB	2\$:	0996
			50	D4	0002F	CLRL	R0	:	1016
	52	04	AC	D0	00031	MOVL	CHAN, R2	:	
			64	16	00035	JSB	BAS\$\$CB_PUSH	:	
FF4C	CB	OC	A3	D0	00037	MOVL	12(FMP), -180(CCB)	:	1017
	04	FC	AB	E9	0003D	BLBC	-4(CCB), 4\$:	1024
A0	AB		04	8A	00041	BICB2	#4, -96(CCB)	:	1030
			00	16	00045	JSB	BAS\$\$CB_POP	:	1036
	50	00000000G	01	D0	0004B	MOVL	#1, R0	:	1037
			04	0004E	RET			:	1038

; Routine Size: 79 bytes, Routine Base: _BAS\$CODE + 0000

; 213 1039 1


```
215 1040 1 GLOBAL ROUTINE BAS$CTRL0 (
216 1041 1     CHAN
217 1042 1 ) =
218 1043 1
219 1044 1 !++
220 1045 1 FUNCTIONAL DESCRIPTION:
221 1046 1
222 1047 1     Cancels control 0 on the terminal open on the specified channel.
223 1048 1
224 1049 1 FORMAL PARAMETERS:
225 1050 1
226 1051 1     CHAN.rl.v     The channel whose terminal to disable CTRL0ing on
227 1052 1
228 1053 1 IMPLICIT INPUTS:
229 1054 1
230 1055 1     NONE
231 1056 1
232 1057 1 IMPLICIT OUTPUTS:
233 1058 1
234 1059 1     LUB$V_CCO which, when set, cancels control 0.
235 1060 1
236 1061 1 ROUTINE VALUE:
237 1062 1 COMPLETION CODES:
238 1063 1
239 1064 1     SSS_NORMAL
240 1065 1
241 1066 1 SIDE EFFECTS:
242 1067 1
243 1068 1     Signals if an error is encountered.
244 1069 1     BAS$$CB_PUSH will signal if the channel number is invalid.
245 1070 1     This routine is a no-operation if the channel is not open.
246 1071 1
247 1072 1 --
248 1073 1
249 1074 2 BEGIN
250 1075 2
251 1076 2 BUILTIN
252 1077 2     FP;
253 1078 2
254 1079 2 GLOBAL REGISTER
255 1080 2     CCB = K_CCB_REG : REF BLOCK [, BYTE];
256 1081 2
257 1082 2 LOCAL
258 1083 2     FMP : REF BLOCK [, BYTE];
259 1084 2
260 1085 2     FMP = .FP;
261 1086 2 !+
262 1087 2 Get the CCB for the channel.
263 1088 2 -
264 1089 2
265 1090 2 IF (.CHAN EQL 0)
266 1091 2 THEN
267 1092 2 BEGIN
268 1093 2 !+
269 1094 2 The user is referencing his controlling terminal.
270 1095 2 -
271 1096 3     BAS$$CB_PUSH (LUB$K_LUN_BPRI, LUB$K_ILUN_MIN);
```

```

272 1097 3 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
273 1098
274 1099 !+ If the controlling terminal is not yet open, open it.
275 1100 !-
276 1101
277 1102 IF ( NOT .CCB [LUB$V_OPENED]) THEN BAS$$OPEN_ZERO (.FMP [SF$L_SAVE_FP]);
278 1103
279 1104 END
280 1105 ELSE
281 1106 BEGIN
282 1107 !+ This is an ordinary channel.
283 1108 !-
284 1109 BAS$$CB_PUSH (.CHAN, LUB$K_LUN_MIN);
285 1110 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
286 1111
287 1112 END;
288 1113
289 1114 !+ If the channel is not now open, this function is a no-operation.
290 1115 !-
291 1116
292 1117 IF (.CCB [LUB$V_OPENED])
293 1118 THEN
294 1119 BEGIN
295 1120
296 1121 !+ Now set the CCO bit, which will cause the record level code
297 1122 !- to tell RMS to cancel control 0.
298 1123
299 1124 CCB [LUB$V_CCO] = 1;
300 1125
301 1126 END;
302 1127
303 1128 !+ We are done with register CCB.
304 1129 !-
305 1130
306 1131 BAS$$CB_POP ();
307 1132 RETURN (SS$_NORMAL);
308 1133 END;

```

! end of BAS\$RCTRLO

			081C 00000	.ENTRY	BAS\$RCTRLO, Save R2,R3,R4,R11	: 1040
54	00000000G	00	9E 00002	MOVAB	BAS\$\$CB_PUSH, R4	: 1085
53		5D	D0 00009	MOVL	FP, FMP	: 1090
	04	AC	D5 0000C	TSTL	CHAN	
		1E	12 0000F	BNEQ	1\$	
50		08	CE 00011	MNEGL	#8, R0	: 1096
52		08	CE 00014	MNEGL	#8, R2	
		64	16 00017	JSB	BAS\$\$CB_PUSH	
FF4C	CB	OC	A3 D0 00019	MOVL	12(FMP), -180(CCB)	: 1097
	1E	FC	AB E8 0001F	BLBS	-4(CCB), 3\$: 1102
		OC	A3 DD 00023	PUSHL	12(FMP)	
00000000G	00	01	FB 00026	CALLS	#1, BAS\$\$OPEN_ZERO	
		0E	11 0002D	BRB	2\$: 1090
		50	D4 0002F	CLRL	R0	: 1110
52	04	AC	D0 00031	MOVL	CHAN, R2	

BAS\$CTRL0
1-004

L 12
16-Sep-1984 00:10:22
14-Sep-1984 11:54:48

VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCTRL0.B32;1

Page 9
(4)

FF4C	CB	OC	64	16	00035	JSB	BAS\$\$CB_PUSH	:	1111
	04	FC	A3	D0	00037	MOVL	12(FMP), -180(CCB)	:	1118
AO	AB		AB	E9	0003D	BLBC	-4(CCB), 4\$:	1125
			04	88	00041	BISB2	#4, -96(CCB)	:	1131
	50	00000000G	00	16	00045	JSB	BAS\$\$CB_POP	:	1132
			01	D0	0004B	MOVL	#1, R0	:	1133
			04	00	0004E	RET		:	

; Routine Size: 79 bytes, Routine Base: _BAS\$CODE + 004F

: 309 1134 1
: 310 1135 1 END
: 311 1136 1
: 312 1137 0 ELUDOM

! end of module BAS\$CTRL0

PSECT SUMMARY

Name	Bytes	Attributes
_BAS\$CODE	158	NOVEC, NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC, ALIGN(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	2	0	581	00:01.1

COMMAND QUALIFIERS

; BLISS/CHECK=(FIELD, INITIAL, OPTIMIZE)/NOTRACE/LIS=LIS\$:BASCTRL0/OBJ=OBJ\$:BASCTRL0 MSRC\$:BASCTRL0/UPDATE=(ENH\$:BASCTRL0)

; Size: 158 code + 0 data bytes
; Run Time: 00:10.0
; Elapsed Time: 00:24.3
; Lines/CPU Min: 6828
; Lexemes/CPU-Min: 40438
; Memory Used: 117 pages
; Compilation Complete

0020

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY